Guidelines for Improving Information Leadership of Rural Primary Schools Principals in Guangxi

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Abstract

The objectives of this research were: 1) to study the current situation, 2) to formulate guidelines, and 3)to evaluate suitability and feasibility of guidelines of improving information leadership of Rural Primary Schools Principals in Guangxi . The sample group of this research included 484 Teachers or Vice Principals/ Principals from 241 Primary Schools in Guangxi. Research instruments included: 1) questionnaire, 2) structured interview, and 3) evaluation form. The data were analyzed by percentage, average value, standard deviation, and content analysis.

The research results show that: 1) The current situation of information leadership of rural primary schools principals in Guangxi in five aspects was at high level. Considering the results of this research aspects ranged from the highest to lowest mean were as follows: the highest mean was information literacy), followed by Information environment and resource construction ability, Information evaluate ability was the lowest mean. 2) Guidelines for improving information leadership of rural primary schools principals in Guangxi included five aspects with a total 48 measures. There are: 1) Information literacy included 10 measures, 2) Information management ability 10 measures, 3) Information environment and resource construction ability included 8 measures, and 4) Information planning and design ability included 10 measures, 5) Information evaluate ability included 10 measures. The suitability and feasibility evaluation results of guidelines were at high level.

Keywords: Guidelines, Information Leadership, Rural Primary Schools Principals

Introduction

The information technology revolution in the West has had a profound impact on all areas of Chinese society. Education information in China has gone through a process from scepticism to acceptance to application, and has shown the stage characteristics of focusing on infrastructure, introducing supporting equipment and strengthening application exploration. China introduced the Standards for information Leadership of Primary and Secondary School Principals in 2014, It is formulated to promote the development of information in primary and secondary schools and to enhance the leadership of headmasters in an information environment. The standard has the following seven key points: information awareness and concepts, information planning and implementation, IT application capabilities, information teaching and learning environment construction, information management and decision-making support, information literacy enhancement and continuous learning, and information security and ethics, which provide guiding directions for primary and secondary headmasters' These points provide a guiding direction for information leadership, which helps to promote the development and progress of schools in the age of information.(Department of Education of Guangxi Province, 2015)

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In 2021, the beginning of the 14th Five-Year Plan, Guangxi plans to synchronise with the 2035 vision that "China's economic and scientific and technological strengths will be greatly upgraded". Primary schools in Guangxi must pay attention to the dynamics of different interests at the national and social levels from multiple perspectives and in a comprehensive and systematic way, so as to lead the cultivation of talents for sustainable development.Primary school principals need to have modern education concepts, promote the process of education information, use information technology to enhance the teaching and management level of the school, strengthen the construction of digital education resources, and promote the construction of smart campuses, and headmasters should play a leading role in this process to promote the transformation of schools into information and digitalisation. Headmasters should promote the improvement of the curriculum system in schools to ensure that students receive all-round training in moral, physical and artistic cultivation along with knowledge learning. Headmasters should ensure that their schools make a difference in promoting equity in education, especially in promoting a balanced distribution of educational resources and ensuring that disadvantaged groups receive an equitable education. (LiangJuan, 2024)

In conclusion,two key points are emphasised in these domestic and international policies. The first is that education must keep abreast of the trend of information technology and fully integrate information technology into the field of education, so as to promote the modernisation of education. Secondly, the leadership role of headmasters in school development is emphasised. Although there has been an abundance of research on "information technology + education" globally, China's theoretical research on the integration of information technology and education started relatively late, and there is a paucity of relevant literature. In addition, the practical application of information technology leadership by headmasters in primary and secondary schools in China still has problems that are not in line with the requirements of the times. Especially in Guangxi, how to effectively improve the information leadership of primary school principals and promote the development of local education information is an urgent topic to be solved. This study aims to identify the problems and propose targeted improvement strategies by empirically analysing the current situation of information leadership of rural primary school principals in Guangxi. Through this study, we hope to provide new theoretical support and empirical analyses for improving the information leadership of primary school principals in Guangxi. This research not only provides strategic guidance for the development of local education information, but also provides practical references for achieving educational equity and improving educational quality.

Objectives

1. To study the current situation of information leadership of rural primary schools principals in Guangxi.
2. To formulate guidelines for improving information leadership of rural primary schools principals in Guangxi.
3. To evaluate the suitability and feasibility of improving guidelines for information leadership of rural primary schools principals in Guangxi.

Scope of the Research

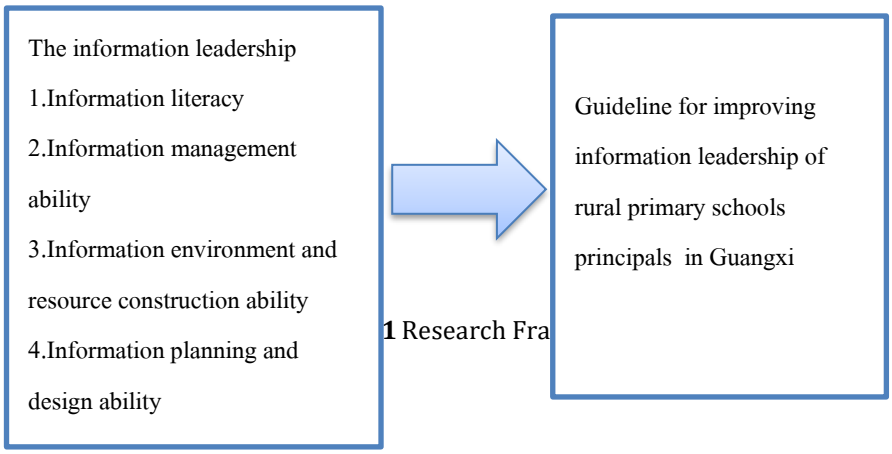
1. Scope of Content
    - 1.1 Concept of Educational Administration
    - 1.2 Concepts of information leadership
2. Scope of Population / Sample Group

1. To study the the current situation of information leadership of rural primary schools principals in Guangxi. The population included 8480 teachers or Vice Principals/ Principals from 617 rural primary schools in Guangxi. Sample Group According to Krejcie and Morgan sampling table (1970), the research object is 368 Teachers or Vice Principals/ Principals from 14 rural primary schools in Guangxi. By using stratified random sampling and simple random sampling. To ensure the reliability of the data, the researcher collected an additional 484 teachers or Vice Principals/ Principals.

2. To formulate guidelines for improving information leadership of rural primary schools principals in Guangxi. The key informants in this research included 14 high-level rural primary schools principals in Guangxi. The qualifications of the key informants are as follows: 1) at least 10 years of work experience in high-level administrator in rural primary schools, 2) received a senior title certificate, 3) graduated with master's degree or above.

3. To evaluate the suitability and feasibility of improving guidelines for information leadership of rural primary schools principals in Guangxi. The experts included 15 rural primary schools principals in Guangxi. The experts' qualifications are as follows: 1) at least 8 years of work experience in high-level administrator in rural primary schools,, 2) received a senior title certificate, 3) graduated with master's degree or above.

Research Framework



1 Research Fra

Research Methodology

Phase 1: To study the current situation of information leadership of rural primary schools principals in Guangxi.

Phase 2: To formulate the guidelines for improving information leadership of rural primary schools principals in Guangxi.

Phase 3: To evaluate the suitability and feasibility of improving guidelines for information leadership of rural primary schools principals in Guangxi.

This research is mixed methods research. The research method is divided into 3 steps as follows

Phase 1: To study the current situation of information leadership of rural primary schools principals in Guangxi**.**

The population / Sample Group

The population included 8480 teachers or Vice Principals/ Principals from 14 rural primary schools in Guangxi.

Sample Group

According to Krejcie and Morgan sampling table (1970), the research object is 368 Teachers or Vice Principals/ Principals from 14 rural primary schools in Guangxi. By using stratified random sampling and simple random sampling. To ensure the reliability of the data, the researcher collected an additional 484 teachers or Vice Principals/ Principals.

Research Instruments

A questionnaire was the instrument to collect the data for objective one, to study the current situation of information leadership of rural primary schools principals in Guangxi. The questionnaire was designed based on information leadership of rural primary schools principals in Guangxi in five aspects: 1) Information literacy, 2) Information management ability, 3) Information environment and resource construction ability, 4) Information planning and design ability ,and 5) Information evaluate ability. The questionnaire has a reliability value of 0.875.

Data Collection Method

The researcher requested a requirement letter from the graduate school, Bansomdejchaopraya Rajabhat University, to collect the data from 484 teachers or Vice Principals/ Principals from 17 of rural primary schools principals in Guangxi. A total of 484 questionnaires, accounted for 100 percent.

Data Analysis

The current situation of information leadership of rural primary schools principals in Guangxi is in five following aspects: 1) Information literacy, 2) Information management ability, 3)

Information environment and resource construction ability, 4) Information planning and design ability ,and 5) Information evaluate ability. The data was analyzed by Mean and standard deviation.

Phase 2: To formulate guidelines for improving information leadership of rural primary schools principals in Guangxi.

The key informants

The key informants selected by purposive sampling, the key informants in this research included 14 high-level rural primary schools principals in Guangxi. The qualifications of interviewees are as follows: 1 at least 10 years of work experience in high-level administrator in rural primary schools, 2) received a senior title certificate, 3) graduated with master's degree or above.

Research Instruments

The instrument to collect the data for objective two, to formulate guidelines for improving information leadership of rural primary schools principals in Guangxi was a structured interview, The structured interview was designed based on the current situation of information leadership of rural primary schools principals in Guangxi in five following aspects: 1) Information literacy, 2) Information management ability, 3) Information environment and resource construction ability, 4) Information planning and design ability ,and 5) Information evaluate ability.

Data Collection Method

The researcher requested a requirement letter from the graduate school, Bansomdejchaopraya Rajabhat University, to interview 14 principals from rural primary schools in Guangxi. The researcher interviews the high-level administrators individually through an online platform or face-to-face depending on the interviewee's convenience.

Data Analysis

The structured interview about the guidelines for improving information leadership of rural primary schools principals in Guangxi was analyzed by content analysis.

Phase 3: To evaluate the suitability and feasibility of guidelines for improving information leadership of rural primary schools principals in Guangxi

The experts

The experts for evaluate the suitability and feasibility of guidelines for improving information leadership of rural primary schools principals in Guangxi were 15 experts. The experts' qualifications are as follows: 1) at least 8 years of work experience in high-level administrator in rural primary schools, 2) received a senior title certificate, 3) graduated with master's degree or above.

Research Instruments

The instrument to collect the data for objective three to evaluate the suitability and feasibility of guidelines for improving information leadership of rural primary schools principals in Guangxi. The evaluation form was designed based on the guidelines for information leadership of rural primary schools principals in Guangxi in five following aspects: 1) Information literacy, 2) Information management ability, 3) Information environment and resource construction ability, 4) Information planning and design ability ,and 5) Information evaluate ability.

Data Collection Method

The researcher requested a requirement letter from the graduate school, Bansomdejchaopraya Rajabhat University, to invite the expert to evaluate the suitability and feasibility of the guidelines. The researcher distributed the evaluation form to high-level administrators. A total of 15 evaluation forms.

Data Analysis

Data analysis in this research, the researcher analyzes the data by package program, as follows: The evaluation of the suitability and feasibility of the guidelines for information leadership of rural primary schools principals in Guangxi was analyzed by Mean and standard deviation.

Research Findings

1. The analysis results about the current situation of information leadership of rural primary schools principals in Guangxi

Table 1 The average value and standard deviation of the current situation of information leadership of rural primary schools principals in Guangxi in five aspects

Academic quality management	$\bar{X}$	σ	level	Order

1	Information literacy	3.88	0.93	high	1
2	Information management ability	3.67	0.94	high	3
3	Information environment and resource construction ability	3.74	0.90	high	2
4	Information planning and design ability	3.66	1.06	high	4
5	Information evaluate ability	3.63	1.12	high	5
	Total	**3.71**	**0.65**	**high**	

According to table 1 found that the current situation of information leadership of rural primary schools principals in Guangxi in five aspects was at a high level ($\overline{X}$ = 3.71). Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was information literacy ($\overline{X}$ = 3.88), followed by Information environment and resource construction ability ($\overline{X}$ = 3.74), Information evaluate ability was the lowest mean ($\overline{X}$ = 3.63).

1. Information literacy was at a high level. Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was The principal can integrate information analysis results to develop management strategies and teaching reform plans that align with the school's development needs. Followed by The principal can systematically organize and manage collected information for quick retrieval and use when needed. The principal regularly learns and applies emerging educational technologies to improve teaching methods and enhance the school's level of digitalization was the lowest mean.

2. Information management ability was at a high level. Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was The principal enhances internal communication and collaboration within the school through information technology, followed by The principal actively seeks new applications of information technology to strengthen school management capabilities The principal is able to effectively use information technology to optimize the school's organizational structure was the lowest mean.

3. Information environment and resource construction ability was at a high level. Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was The principal actively supervises and manages the upgrading and maintenance of information hardware in the school, followed by The principal encourages teachers and staff to adopt information technology in their teaching practices, The principal monitors the social support and participation of the community in the school's information environment development was the lowest mean.

4. Information planning and design ability was at a high level. Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was The principal is able to design effective information system infrastructure to support the development of school information, followed by The principal is able to make informed decisions regarding the allocation of school information resources, The principal is able to effectively manage risks and challenges in school information construction was the lowest mean.

5. Information evaluate ability was at a high level . Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was The principal regularly evaluates the various components of the school's information system to ensure its effectiveness, followed by The principal uses evaluations of the current status of the school's information system to determine appropriate improvement measure, The principal identifies and addresses potential risks and issues during the information evaluation process was the lowest mean.

2. The guidelines for information leadership of rural primary schools principals in Guangxi have five aspects, with a total of 48 measures: 1) 10 measures for information literacy, 2) 10 measures for information management ability,3) 8 measures for information environment and resource construction ability, 4) 10 measures for information planning and design ability, and 5) 8 measures for information evaluate ability.

2.1 Information literacy consisted of 10 measures: 1)Strengthening regular training programs for principals on emerging educational technologies, integrating hands-on workshops and case studies to bridge theory with practice.2)Enhancing collaboration with local tech companies and universities to establish joint research projects, enabling schools to pilot innovative digital tools and receive expert guidance.3)To further incentivize digital adoption, introduce performance-based

rewards for principals who successfully integrate technology into teaching, linked to professional advancement.4)Strengthening school IT infrastructure by allocating dedicated funds for hardware, software, and maintenance, ensuring equitable access across rural campuses.5)Enhancing policy communication through multilingual parent-teacher workshops, showcasing how digital tools benefit student learning to build community support.6)To further empower teachers as digital mentors, establish peer-led training cohorts where experienced staff assist principals in mastering new technologies step-by-step.7)Strengthening the role of regional education hubs to curate regionalized digital resource libraries, addressing unique challenges faced by rural schools.8)Enhancing data-driven decision-making by providing principals with analytics dashboards to monitor tech adoption impact, enabling targeted improvement strategies.9)To further foster innovation, organize annual "Tech Integration Idea Competitions" for principals, rewarding creative solutions with implementation grants.10)Strengthening policy flexibility to allow schools to experiment with phased digital transitions, offering grace periods for adaptation while maintaining accountability.

2.2 Information management ability consisted of 10 measures:1) Strengthening the establishment of a teacher-collaboration network using IT tools (e.g., online forums, shared calendars) to align departmental goals and reduce administrative overlap.2)Enhancing the adoption of standardized digital workflows (e.g., automated reporting systems) to streamline repetitive tasks and free up time for strategic planning.3)To further integrate parent participation, create a digital platform where parents can submit feedback on organizational reforms and track implementation progress.4)Strengthening cross-functional roles for principals, such as assigning them oversight of both academic and IT departments to ensure tech-driven decisions align with school priorities.5)Enhancing data-driven decision-making by implementing AI-powered tools to analyze student performance trends and adjust organizational structures proactively.6)To further establish a "digital mentorship" program pairing principals with urban school leaders experienced in tech-based organizational restructuring.7)Strengthening the use of cloud-based resource libraries to centralize lesson plans, policies, and training materials, reducing redundancy across classrooms.8)Enhancing teacher accountability through IT-based performance dashboards that track adoption rates of digital tools and collaborative projects.9)To further pilot "flexible organizational models," allowing principals to experiment with hybrid roles (e.g., combining IT manager and curriculum developer) to adapt to rural needs.10)Strengthening periodic audits of IT infrastructure to identify gaps in organizational efficiency, prioritizing upgrades that directly support decision-making processes.

2.3 Information environment and resource construction ability consisted of 8measures:1)Strengthening community engagement through regular digital forums and town halls to transparently share progress on school information environment development, fostering trust and collaboration.2)Enhancing parent-teacher partnerships by establishing a digital volunteer program where community members assist in maintaining IT infrastructure and training teachers.3)To further integrate local culture into digital initiatives, collaborate with community elders to co-design culturally relevant e-learning content (e.g., traditional language courses).4)Strengthening policy advocacy by organizing workshops for local government officials to highlight the role of community support in bridging rural-urban digital divides.5)Enhancing resource sharing networks between schools and nearby villages, leveraging IT tools to pool funds and equipment for joint information environment projects.6)To further empower young leaders, train high school students to act as "digital ambassadors" and send messages to their peers and families.7)Strengthening feedback mechanisms by implementing QR code-based surveys in rural markets and community centers to gauge community needs for information services.8)Enhancing public-private partnerships by collaborating with local businesses to sponsor digital literacy programs for parents and community members.

2.4 Information planning and design ability consisted of 10 measures:1)Strengthening cybersecurity protocols by implementing basic firewalls and regular password updates, especially for rural schools with limited IT staff.2)Enhancing community oversight committees to monitor school IT budget allocation and infrastructure maintenance, ensuring transparency and accountability.3)To further develop offline contingency plans for areas with unreliable internet, using USB drives or SD cards to store critical educational resources.4)Strengthening teacher training on equipment troubleshooting (e.g., projector repairs, network connectivity checks) to reduce reliance on external tech support.5)Enhancing partnerships with local businesses to donate outdated but functional hardware (e.g., laptops, printers) for school use.6)To further integrate rural-specific risk management, such as establishing a "digital emergency fund" for unexpected infrastructure

repairs.7)Strengthening parent-child digital safety workshops, focusing on preventing cyberbullying and protecting personal data during online activities.8)Enhancing collaboration with local government for periodic IT audits, prioritizing schools with high vulnerability to natural disasters (e.g., flood-prone regions).9)To further leverage community volunteers to maintain school networks, training villagers in basic IT maintenance tasks (e.g., cable management).10)Strengthening data encryption for student records stored on local servers, especially in schools without cloud storage access.

2.5 Information evaluate ability consisted of 10measures:1) Strengthening teacher training programs on basic data analysis tools (e.g., spreadsheets, simple dashboards) to enhance their ability to interpret information evaluation results.2)Enhancing community involvement by inviting local elders to review digital resource suitability for cultural sensitivity and rural relevance.3)To further simplify evaluation processes, develop paper-based checklists for schools without reliable internet to track infrastructure status manually.4)Strengthening cross-school collaboration, organizing periodic visits between rural schools to share risk identification strategies (e.g., equipment theft prevention).5)Enhancing student feedback mechanisms, using classroom surveys or suggestion boxes to identify user experience issues with digital tools.6)To further integrate traditional knowledge into evaluation criteria, collaborating with community members to assess the practicality of IT solutions in rural contexts.7)Strengthening periodic equipment inventories using QR codes or simple barcoding systems to prevent asset loss or misuse.8)Enhancing partnerships with local IT vendors for discounted maintenance services, prioritizing schools with high-risk IT infrastructure.9)To further establish a "digital mentorship" program pairing urban teachers with rural principals to remotely support evaluation processes.10)Strengthening crisis response protocols, such as creating offline emergency contact lists for IT suppliers and community volunteers.

3. Evaluate the suitability and feasibility of the guidelines for information leadership of rural primary schools principals in Guangxi, shown in Table 2

Table 2 Mean and standard deviation of the evaluation of the suitability and feasibility of guidelines for information leadership of rural primary schools principals in Guangxi in five aspects

	Guidelines	Suitability			Feasibility		
		$\bar{\times}$	S.D	Level	$\bar{\times}$	S.D	Level
1	Information literacy	3.89	0.46	High	3.91	0.48	High
2	Information management ability	3.91	0.47	High	3.90	0.48	High
3	Information environment and resource construction ability	4.02	0.41	High	4.06	0.43	High
4	Information planning and design ability	3.97	0.44	High	3.92	0.40	High
5	Information evaluate ability	3.90	0.39	High	3.89	0.47	High
	Total	**3.94**	**0.32**	**High**	**3.94**	**0.31**	**High**

According to Table 2, the suitability of guidelines for guidelines for improving information leadership of rural primary schools principals in Guangxi in five aspects was at the high level. Considering the results of this research aspects ranging from the highest to lowest level were as follows: the highest level was Information environment and resource construction ability, followed by Information planning and design ability, Information literacy was the lowest level.

The feasibility guidelines for academic quality management of Guangxi Higher vocational colleges in five aspects were at the highest level. Considering the results of this research aspects ranging from the highest level was Information environment and resource construction ability, followed by Information planning and design ability, Information evaluate ability was the lowest level.

Discussion

1. The current situation of information leadership of rural primary schools principals in Guangxi in five aspects was at a high level. Considering the results of this research aspects ranged from the highest to the lowest mean were as follows: the highest mean was information literacy, followed by Information environment and resource construction ability, Information evaluate ability was the lowest mean. The curruent of information leadership in five aspetcts was at high level. Including Information literacy, Information management ability, Information environment and resource construction ability, Information planning and design ability, Information evaluate ability. The results of this research aspects ranged from the highest to lowest level were as follow: the highest mean was Information environment and resource construction ability, followed by Information planning and design ability, and Information literacy was the lowest mean. This is because Low information literacy may be due to the fact that it includes soft skills such as teacher training and data ethics, which require continuous learning and updating, while principals are limited by administrative pressure and the speed of technology iteration, which may lead to the tendency to "emphasize construction rather than application" in practice. In addition, the assessment of information literacy involves personal cognitive dimensions, and there may be self-assessment conservatism. Related to Anqi concept (Cao Anqi, 2016,p17-19)Teachers generally reported a "lack of systematic digital training", which corroborates the lack of practice in the literacy dimensions of knowledge updating and ethical guidance of headmasters, and is consistent with the lowest score on the questionnaire for information literacy. Weaknesses in the application of technology in the dimension of "Educational Leadership" (e.g., insufficient development of digital tools for after-school services), lack of awareness of data ethics in the dimension of "Value Leadership" (risks of information handling in the context of home-school collaboration), and the focus of headmasters' promotion strategies on "theoretical knowledge" without mentioning information skills training reflect structural shortcomings in information literacy (Liu Huan, 2022,p29-32).

2. The guidelines information leadership of rural primary schools principals in Guangxi. including 5 guidelines, a total of 48 measures: 10 measures for information literacy, 10 measures for information management ability,8 measures for information environment and resource construction ability, 10 measures for information planning and design ability, and 8 measures for information evaluate ability. The researcher has chosen measures to improve Information literacy the reason that experts proposed this strategy in response to the current situation. Schools should share the progress of informatization with the community through transparent communication mechanisms to promote home-school-community synergy. He believes that community participation enhances trust, especially in rural areas, and that parents need to be made to understand the significance of informatisation for educational equity through public meetings and activities to form a synergy of co-construction(Chabalala & Naidoo, 2021,p 1-10).In analysing the PPP model of education informatisation, he emphasised that the involvement of community members in equipment maintenance and teacher training can reduce school operating costs while enhancing a sense of community belonging.He suggested transforming parents into "technology partners" through volunteer programmes, such as organising parents to learn basic equipment management and forming mutual support networks (Warisno & Hidayah, 2022,P 603-616).

3. The suitability and feasibility of guidelines for information leadership of rural primary schools principals in Guangxi in five aspects were at the high level with values between 3.50-4.49, which means guidelines for information leadership of rural primary schools principals in Guangxi are suitable and feasible measures to Enhancing collaboration with local tech companies and universities to establish joint research projects, enabling schools to pilot innovative digital tools and receive expert guidance. Of these, the highest scores for the suitability of the guidelines for information management ability are "6)To further establish a "digital mentorship" program pairing principals with urban school leaders experienced in tech-based organizational restructuring." and the highest scores for the feasibility of the guidelines for information management ability are"6.To further establish a "digital mentorship" program pairing principals with urban school leaders experienced in tech-based organizational restructuring." Related to Jie (Jie, 2022,p214-217)argued that information management capacity enhancement requires strengthening the transparency of budget allocation and monitoring mechanisms.It is recommended that community committees be introduced to review IT expenditures to ensure that funds are used efficiently for infrastructure maintenance.At the same time, a "digital emergency fund" should be set up to cope with unexpected repairs and avoid resource disruption.The core of school information management is data security.It is recommended that encryption technology be implemented for locally stored student records, and that teachers be regularly trained in data protection awareness.At the same time, parent-child

workshops should popularise online safety knowledge to prevent cyberbullying(Liu Chao, 2018,p19-28).

Recommendations

Recommendations in implementation

1. Information literacy should be special training for school headmasters should be organised on a regular basis, and guidance from educational technology experts should be introduced; an in-school technical support team should be established to provide hands-on counselling; a platform for high-quality educational resources should be set up to simplify the process of accessing information; and an incentive mechanism for digital management should be established to promote practical application.

2. Information Management Ability should carry out training on information technology management topics, introduce professional teams to optimise the organisational structure; build an integrated management platform to promote the digitalisation of processes; combine with performance appraisal to stimulate innovative applications and improve management efficiency.

3. Information environment and resource construction ability should be establish a mechanism for co-operation with the community and communicate needs and progress on a regular basis, optimise the management of information resource rights, screen quality content and train skills in its use, formulate a regular assessment plan for the infrastructure and update and maintain the equipment in a timely manner.

4. Information planning and design ability should be strengthening IT training for school headmasters to enhance risk control and strategic planning capabilities; introducing professional teams to assist in formulating plans that are in line with development objectives; and establishing risk assessment mechanisms and contingency plans to ensure that the objectives are feasible.

5. Information evaluate ability should be establish a risk assessment mechanism and regularly train school headmasters to identify risks; introduce data-driven decision-making, linking assessment results to direction adjustments; and develop sustainability indicators to ensure resource allocation and technology iteration.

Recommendations for further research

1. Information leadership of rural primary schools principals encompasses many aspects that will continue and be studied in depth in the future, such as Strategies for improving IT application skills, teachers' information literacy development and home-school information communication.

2. Focusing on the rural education informatization scenario, exploring the practical path of headmasters in the areas of digital resources integration, smart campus construction, teachers' information literacy training, etc.

3. Carrying out research on regional characteristics, combining with the current situation of informatisation in rural primary schools in Guangxi, constructing the Ethnic Area-County-Inter-school"three-level linkage of the headmaster leadership development model.

4. Expand the scope of application of the information leadership enhancement guide for rural primary school principals, providing reference for more rural primary schools.

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